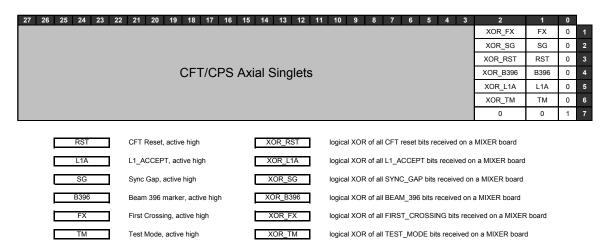


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**Project:** DFEA **Doc. No:** 2000-02-09a

**Subject:** Framing and Control bits in the LVDS links to the DFEA

All **Orange** and **Blue**<sup>1</sup> LVDS links going from the MIXER to the DFEA should look like this:



Along with the seven control bits, there are 7 XOR bits. The purpose of the XOR bits is to inform the DFEA if the control bits received on a MIXER board do not agree. For example, if one of the AFE boards feeding into a MIXER board does not assert the CFT\_RESET bit but the other AFE boards do, then the MIXER board should set the RST bit and also the XOR\_RST bit when sending data to the DFEA.

Note: The control bits contained inside a frame are assumed to apply to the singlet data in that frame.

<sup>&</sup>lt;sup>1</sup> The rest of the links going to the DFEA need only to have the End of Frame marker in the LSb position as shown above.

• When a 21-bit wide LVDS link transmitter is connected to a 28-bit wide LVDS link receiver, the 21 valid bits are scattered across the 28 receiver output pins. Below is a table showing the mapping between 21-bit and 28-bit LVDS channel links.

21-bit link TX	28-bit link RX
D0	Q0
D1	Q1
D2	Q2
D3	Q3
D4	Q4
Χ	Q5
D5	Q6
D6	Q7
D7	Q8
D8	Q9
Χ	Q10
Χ	Q11
D9	Q12
D10	Q13
D11	Q14
D12	Q15
Χ	Q16
Χ	Q17
D13	Q18
D14	Q19
D15	Q20
D16	Q21
D17	Q22
Χ	Q23
D18	Q24
D19	Q25
D20	Q26
Χ	Q27

